MUNICIPAL FACILITIES STRATEGY

Prepared for
Permittees
Riverside Municipal Stormwater Permit
Santa Ana Region

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Prepared by

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1.1 BACKGROUND

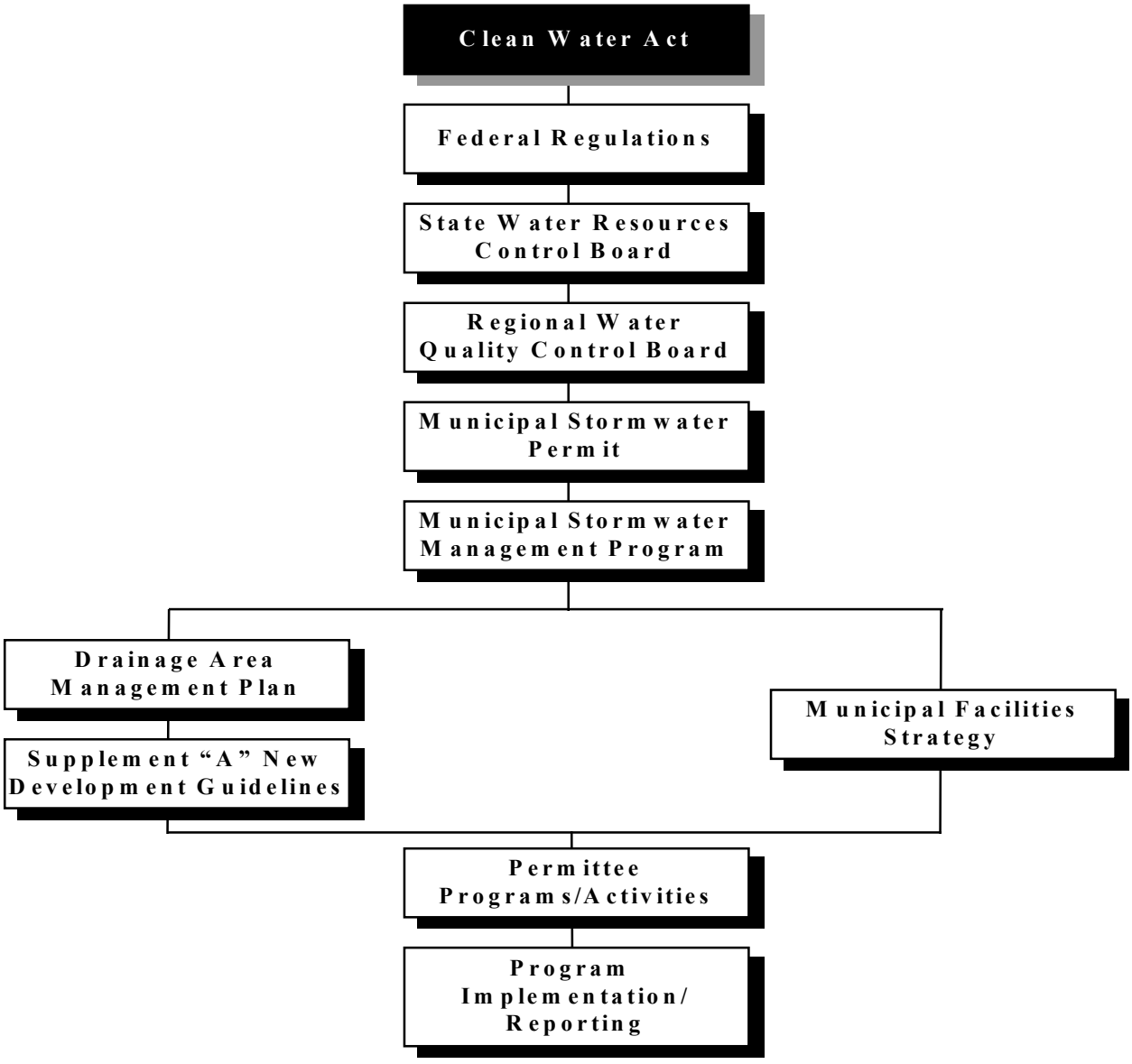
The County of Riverside in conjunction with the Riverside County Flood Control and Water Conservation District (RCFC&WCD) and the cities of Riverside County within the jurisdiction of the Santa Ana Regional Water Quality Control Board (Regional Board) were jointly issued a National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit (NPDES Permit No. CAS 618033) on March 8, 1996. The County of Riverside, the RCFC&WCD, and the cities of Riverside County, including Beaumont, Calimesa, Canyon Lake, Corona, Hemet, Lake Elsinore, Moreno Valley, Norco, Perris, Riverside, and San Jacinto, are hereinafter referred to as Permittees.

Section V, Provision 14, of the Municipal Stormwater Permit requires that the Permittees develop a Municipal Facilities Strategy to address best management practices (BMPs) for activities conducted at municipal facilities of concern. In addition, Finding 20 of the Municipal Stormwater Permit identifies municipal activities for which the Permittees are required to develop BMPs to reduce the potential for stormwater pollution. These activities include street sweeping, catch basin cleaning, maintenance yards, vehicle and equipment maintenance areas, waste transfer stations, corporation and storage yards, parks and recreational facilities, landscape and swimming pool maintenance activities, storm drain system maintenance activities, and the application of herbicides, algaecides and pesticides.

Development and implementation of BMPs for municipal activities associated with municipal facilities of concern are addressed in this Municipal Facilities Strategy as required by Section V.14, of the Municipal Stormwater Permit. BMPs for other municipal activities identified in Finding 20 will be addressed either through the further development of the approved Drainage Area Management Plan (DAMP) or through the development of separate guidance materials. Further, where the activities listed in Finding 20 are provided under contract, Permittees shall require contractors to comply with applicable federal, state, and local laws including their local stormwater ordinances.

As described in the Municipal Stormwater Permit, the Municipal Facilities Strategy is a pollution prevention strategy that addresses public agency facilities and associated activities that are considered to be activities of concern regarding stormwater pollution. The Municipal Facilities Strategy is a separate but complimentary element of the Municipal Stormwater Management Program that also includes the DAMP. The Municipal Facilities Strategy expands

the scope of the Municipal Stormwater Management Program by specifically addressing the issue of pollution prevention at municipal facilities. Permittees are responsible for developing and implementing the activities described in the Municipal Facilities Strategy, just as they are responsible for developing and implementing activities listed in the DAMP. The following flowchart graphically represents the relationship of the Municipal Facilities Strategy to the DAMP and the Permittees' Municipal Stormwater Management Program.



1.2 PURPOSE AND OBJECTIVES

The purpose of the Municipal Facilities Strategy is to help Permittees comply with Section V.14 of the Municipal Stormwater Permit. This is to be accomplished through the development and implementation of appropriate pollution prevention programs to ensure that public agency facilities and associated activities that are not currently required to obtain coverage under the General Industrial Activities Stormwater Permit do not contribute pollutants to the waters of the United States. For the purposes of this strategy, the term "facilities" is defined as a location where industrial type activities occur including vehicle and equipment fueling and maintenance, material transfer and storage, waste management and storage, and other activities which may result in exposure of potential pollutants to stormwater.

The objectives of the Municipal Facilities Strategy are as follows:

- Identify Permittees' public agency facilities and associated activities that are of concern with respect to stormwater pollution;
- Identify potential pollutants of concern associated with the identified public agency facilities and associated activities;
- Provide a list of potential source control Best Management Practices (BMPs) to be evaluated as candidate BMPs by the Permittees;
- Assist Permittees with the development of facility monitoring programs which will assess the need for source controls and monitor the effectiveness of the BMPs selected by the Permittees;
- Identify schedules for development and implementation of stormwater source control BMPs and non-stormwater discharge BMPs
- Identify schedules for training of public agency staff to ensure proper implementation of the selected BMPs; and
- Assist Regional Board staff with the identification of specific municipal facilities and potential pollutants of concern and Permittees' compliance schedules.

1.3 HOW TO USE THE MUNICIPAL FACILITIES STRATEGY

The Municipal Facilities Strategy is to be used by the Permittees as guidance in development of appropriate control strategies for specific Permittee facilities and associated activities that are of concern with respect to stormwater pollution. The Municipal Facilities Strategy outlines a process for identifying potential stormwater pollution problems and the selecting candidate BMPs applicable to specific sources of stormwater pollutants associated with facilities identified by a Permittee. Section 2 of the strategy summarizes the number and types of facilities of concern operated by each Permittee and identifies the typical activities associated with these facilities that may be potential sources of stormwater pollutants. Section 3 describes the potential pollutants associated with the activities identified in Section 2 and Section 4 presents a list of potential source control BMPs for evaluation by the Permittees for selection as candidate BMPs. These potential BMPs are presented in a matrix format, indicating which BMPs may be most appropriate for each of the activities identified in Section 2. Section 5 describes the schedule for training of public agency staff to ensure the proper implementation of the selected candidate BMPs and Section 6 describes the model monitoring program that will be implemented by the Permittees to measure the effectiveness of the selected candidate BMPs.

Based on the information compiled in Sections 2 and 3, including the types of facilities operated, associated activities, and potential pollutants, and a knowledge of the BMPs currently being implemented at each facility, the Permittees may use the list of potential source control BMPs presented in Section 4 to develop strategies and select candidate BMPs for pollution prevention that are tailored to each municipal facility. The steps for using the Municipal Facilities Strategy to develop facility specific strategies may be summarized as follows:

1. Refer to Appendix A to obtain specific information regarding the activities performed at a particular facility and the associated potential pollutants.

2. Refer to Table 3 (Section 4) and identify the candidate source control BMPs that are most applicable to the activities conducted at each facility.

3. Conduct initial facility evaluations as described in Section 6. Review descriptions of potential source control BMPs provided in Appendix C and select candidate BMPs. Also, consider any other appropriate BMPs not listed.

4. Identify any capital and/or operations and maintenance costs associated with the implementation of the candidate BMPs.

5. Meet with affected municipal departments to select BMPs for implementation at identified facilities, develop facility specific strategies, and obtain approval of the selected BMPs.

6. Consider resources needed to implement the selected BMPs.

7. Prepare a schedule for implementation of the selected BMPs in consultation with the affected municipal departments. This schedule should be consistent with the information provided in Appendix B.

8. Train appropriate staff to ensure proper implementation of the selected candidate BMPs.

9. Monitor the effectiveness of the selected candidate BMPs implemented at each facility according to the model monitoring program described in Section 6.

10. Update each facility's pollution prevention strategy as necessary.

In accordance with Section V.14 of the Municipal Stormwater Permit, the Permittees identified the types of municipal facilities they operate. Based upon this, the following types of municipal facilities were determined to be of concern regarding stormwater pollution:

- corporate yards (including equipment, transit maintenance, public works, fleet maintenance, civic center, and parks and recreation equipment yards);
- hazardous materials storage facilities;
- fire and police stations;
- animal shelters; and
- municipal swimming pools.

No waste transfer stations were identified as being operated by the Permittees and facilities that consisted of only administrative buildings and parking areas were not identified to be of concern regarding stormwater pollution. Antifreeze, battery, oil, and paint collection centers (ABOPs) were also not identified as facilities of concern as they are otherwise regulated under the Resource Conservation and Recovery Act (RCRA). In addition, Permittee facilities such as water treatment plants, airports, and landfills were not included in the scope of this Municipal Facilities Strategy because they are covered individually under the General Industrial Activities Stormwater Permit or other NPDES permits.

A survey of the Permittees was then conducted to identify the typical activities conducted at the identified facilities. A description of these typical activities follows.

Corporate Yards

- loading, unloading, handling, and storage of animal wastes, anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, herbicides, new and used oil, paint products, pesticides, scrap metal, solvents, trash and debris, and washwater;

- filling of aboveground and underground storage tanks (ASTs and USTs) with fuels;
- dispensing of fuels to vehicles, equipment, and portable fuel containers;
- vehicle and equipment maintenance;
- vehicle and equipment parking and storage;
- vehicle, equipment, and material washing and steam cleaning;
- leak and spill cleanup; and
- landscape, garden, and general maintenance and cleaning.

Warehouses

- loading, unloading, handling, and storage of materials; and
- landscape, garden, and general maintenance and cleaning.
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Fire and Police Stations

- loading, unloading, handling, and storage of antifreeze, chemicals, new and used oil, scrap metal, and trash and debris;
- filling of ASTs and USTs with fuels;
- dispensing fuel;
- vehicle and equipment maintenance;
- vehicle and equipment parking and storage;
- vehicle washing and steam cleaning;

- leak and spill cleanup; and
- landscape, garden, and general maintenance and cleaning.

Hazardous Materials Storage Facilities

- loading, unloading, handling, and storage of potentially hazardous materials; and
- leak and spill cleanup.

Animal Shelters

- loading, unloading, handling, and storage of animal wastes for off-site recycling, chemicals, and fuel;
- vehicle, equipment, and material washing;
- leak and spill cleanup; and
- landscape, garden, and general maintenance and cleaning.

Swimming Pools

- storage and use of chemicals, including chlorine;
- filter maintenance and backwashing; and
- landscape, garden, and general maintenance and cleaning.

Water Treatment Facilities

- loading, unloading, handling, and storage of materials;
- filling of ASTs and USTs with fuels;
- vehicle washing and steam cleaning;

- leak and spill cleanup; and

- landscape, garden, and general maintenance and cleaning.

Table 1 summarizes the number and type of these facilities operated by each of the Permittees. More detailed information concerning the location and activities performed at a particular municipal facility may be found in Appendix A.

TABLE 1. PUBLIC AGENCY FACILITIES MATRIX[1]

PERMITTEE	Corporate Yards	Parks and Recreation Yards	Warehouses	Fire Stations	Police Stations	Hazardous Materials Storage Facilities	Animal Shelters	Swimming Pools	Water Treatment Facilities
RCFC&WCD	1								
Riverside County	19		1	60		5	3		
Beaumont	2				1			1	
Calimesa	1								
Canyon Lake[2]									
Corona	3	2		6	1		1	1	3
Hemet	2			3	1				
Lake Elsinore	1								
Moreno Valley	1						1		
Norco	1			2			1	1	
Perris	1								
Riverside	1			13	2	10		8	
San Jacinto	1				1			1	

(1) Locations of individual Permittee facilities are listed in Appendix A.
(2) The City of Canyon Lake does not own nor operate any municipal facilities.

Identification of the potential pollutants at each Permittee's municipal facilities is necessary in order to select appropriate candidate BMPs that will adequately address potential stormwater pollution problems. The Permittees were surveyed to identify the potential pollutants of concern typically associated with the activities performed at the facilities of concern identified in Section 2. The survey results are summarized in Table 2. Documentation of the potential pollutants specific to each Permittee's municipal facilities is included in Appendix A.

The Permittees are also required to eliminate non-stormwater discharges. A non-stormwater discharge is defined as any discharge to a municipal storm drain system that is not composed entirely of stormwater. The Municipal Stormwater Permit prohibits all non-stormwater discharges except for the following:

- discharges covered by an NPDES permit or approved by the Regional Board;
- discharges from potable water line flushing and other potable water sources;
- discharges from fire fighting and fire hydrant testing and flushing;
- discharges from landscape irrigation, lawn watering, and other irrigation activities;
- diverted stream flows;
- rising groundwaters and natural springs;
- uncontaminated groundwater infiltration and uncontaminated pumped groundwater;
- passive foundation drains;
- air conditioning condensate;
- water from crawl space pumps;
- passive footing drains;
- discharges from individual residential vehicle washing (not including discharges from mobile sources);
- flows from riparian habitats and wetlands;

- dechlorinated swimming pool discharges;
- street washwater and run-off from fire fighting; and
- waters not otherwise containing wastes as defined in California Water Code Section 13050 (d).

During the development of the facility specific strategies outlined in Section 1, the Permittees will begin identifying any existing non-stormwater discharges and characterizing the discharges with respect to frequency, volume, flow, and duration. The Permittees will also consider implementation of short-term source control BMPs to mitigate the impacts from non-stormwater discharges while developing plans for elimination or permitting of any such discharges. Schedules for development and implementation of these non-stormwater discharge BMPs and/or plans to address non-stormwater discharges are provided in Appendix B for each Permittee.

TABLE 2. POTENTIAL POLLUTANTS OF CONCERN

POTENTIAL POLLUTANTS	Material Loading/ Unloading/Handling/ Storage	Filling of ASTs/USTs	Dispensing Fuel	Vehicle/ Equipment Maintenance	Vehicle/Equipment Parking and Storage	Vehicle/Equipment/ Material Washing and Steam Cleaning	Leak and Spill Cleanup	Landscape, Garden, and General Maintenance and Cleaning
Animal Wastes	X							
Anti-freeze	X			X	X		X	
Asphalt	X							
Acid	X			X				
Chemicals	X			X	X		X	
Concrete	X						X	
Diesel Wastes	X			X			X	
Emulsions	X						X	
Fertilizer	X						X	
Fuel		X	X	X			X	
Green Wastes	X							X
Hazardous Materials	X			X	X		X	X
Herbicides	X						X	X
New/Used Oil	X			X			X	
Oil and Grease Spills	X			X	X	X	X	
Paint Products	X						X	X
Pesticides	X						X	X
Scrap Metal	X			X				
Solvents	X			X			X	
Trash and Debris	X							X
Washwater						X		

Based on the facilities, associated activities and the pollutants of concern identified for each Permittee in Appendix A, a list of potential source control BMPs has been developed for evaluation by the Permittees. This list references BMPs identified in the *California Storm Water Best Management Practices Handbooks (Industrial and Municipal Handbooks)*.

These source control BMPs will be evaluated by each Permittee as candidate BMPs for implementation at each Permittee's facilities of concern. The schedule for development and implementation of these stormwater source control BMPs for each facility is included in Appendix B. The list of potential source control BMPs includes the following:

Industrial Handbook References

SC1 Non-Stormwater Discharges to Drains

SC2 Vehicle and Equipment Fueling

SC3 Vehicle and Equipment Washing & Steam Cleaning

SC4 Vehicle and Equipment Maintenance and Repair

SC5 Outdoor Loading/Unloading of Materials

SC6 Outdoor Container Storage of Liquids

SC8 Outdoor Storage of Raw Materials, Products, and By-Products

SC9 Waste Handling and Disposal

SC11 Building and Grounds Maintenance

SC14 Employee Training

Municipal Handbook References

SC10 Housekeeping Practices

SC11 Safer Alternative Products

SC20 Material Storage Control

SC40 Vehicle Leak and Spill Control

SC41 Aboveground Tank Leak and Spill Control

This list is not intended to be all inclusive; however, the BMPs listed are both effective and widely accepted. Permittees are encouraged to consult other sources of BMP information and consider implementation of additional methods and measures as appropriate. A matrix identifying potential BMPs that may be appropriate to implement for the municipal facilities and associated activities identified in Section 2 is presented in Table 3. Fact sheets describing each of the source control BMPs are included in Appendix C.

TABLE 3. POTENTIAL SOURCE CONTROL BMPS

Activities \ Potential BMPs	BMP References from Industrial Handbook										BMP References from Municipal Handbook				
	SC1	SC2	SC3	SC4	SC5	SC6	SC8	SC9	SC11	SC14	SC10	SC11	SC20	SC40	SC41
Material Loading /Unloading/Handling/Storage	X				X	X	X	X		X	X		X	X	X
Filling of ASTs/USTs		X								X					
Dispensing Fuel		X								X				X	
Vehicle/Equipment Maintenance	X			X						X				X	
Vehicle/Equipment Parking and Storage										X					
Vehicle/Equipment/Material Washing and Steam Cleaning	X		X							X		X			
Leak and Spill Cleanup										X	X			X	X
Landscaping, Garden, and General Maintenance and Cleaning	X								X	X		X			

To ensure proper implementation of the selected BMPs, each Permittee will need to identify and train appropriate staff. When developing training schedules, Permittees need to consider activities such as identification of staff who require training, development of training programs and training materials, and implementation of the training programs. Schedules for development and implementation of each Permittee's staff training program for municipal facilities BMPs are included in Appendix B.

The following monitoring program has been developed by the Permittees to assess the efficacy of the stormwater pollution control measures and identify where improvements or additional measures may need to be implemented. The monitoring program provides a mechanism to identify potential pollutant problems, assess the effectiveness of existing pollution control measures, and identify additional pollution prevention measures (i.e., BMPs) and program improvements for implementation. The monitoring program includes procedures for conducting an annual inspection, completing an inspection report form, and recordkeeping and reporting.

The monitoring program does not include sampling and analysis of stormwater discharges from the facilities identified in Section 2. These facilities are not identified by the United States Environmental Protection Agency (USEPA) as potentially significant sources of stormwater pollutants under Phase I of the stormwater regulations. Stormwater discharge sampling is not required for non-Phase I facilities.

Additionally, the Permittees believe that, in the case of municipal facilities, significant sources of pollutants can be readily identified through visual observation. Stormwater discharge sampling is seen as having little potential to significantly improve the Permittees' management of potential stormwater pollutants due to the variability of data between facilities and storm events, and potential QA/QC concerns associated with sample collection by facility operators. Thus, the Permittees will focus their efforts and resources on implementation of appropriate BMPs at the identified facilities of concern.

An initial annual inspection will be performed no later than June 1, 1997. This initial inspection will serve as the initial facility evaluation and a baseline for year to year comparisons of the effectiveness of the selected candidate BMPs. Information obtained during the initial facility inspection will be used by the Permittees in identifying appropriate candidate BMPs for subsequent approval and implementation by affected municipal departments. Annual inspections will be performed by the Permittees at those facilities identified in Appendix A.

6.1 ANNUAL INSPECTION PROCEDURES

Annual inspections will be performed by each Permittee at the facilities identified in Appendix A. Each annual inspection will include:

- a facility site walk;
- the completion of an annual inspection report; and
- a re-inspection of facilities where deficiencies are found.

In general, the facility site walk is used to observe and document the extent of overall good housekeeping practices and other stormwater BMPs. The facility site walk includes, but is not limited to, inspections of:

- outdoor areas where trash, waste, and scrap materials are stored;
- outdoor areas where new materials and supplies, especially liquids, are stored;
- fueling islands;
- outside areas where vehicle/equipment maintenance is performed;
- areas immediately outside of buildings in which vehicle/equipment maintenance is performed; and
- areas where vehicle/equipment washing is performed.

These areas of the facility will be inspected to note whether, for example:

- materials are properly contained, stored, and disposed of;
- areas where vehicles, equipment, and materials should be covered with a tarp, moved indoors, or provided with a drip pan while parked or stored;
- spills, leaks, and drips have been cleaned up; and
- where absorbent and containers for used absorbent materials need to be provided;

The staff conducting the annual inspection will also observe whether:

- potential non-stormwater discharges exist;
- containers of liquids are sealed and stored in designated areas;

- all drums and containers are properly labeled as to their contents;
- hoses are present and what they are used for;
- non-stormwater discharges (e.g., washwater) are occurring; and
- surface runoff or excessive roof drainage is contacting potential pollutant sources and contributing to nonpoint source pollution.

A Model Annual Inspection Procedures Checklist (Model Checklist) has been developed to provide guidance to staff who will perform facility site walks. A copy of the Model Checklist is included in Appendix D. The Model Checklist includes:

- facility name (i.e., Corporation Yard No. 1);
- facility address;
- name of staff conducting the inspection;
- title of staff conducting the inspection; and
- date of inspection.

The Model Checklist provides guidance on important source areas to be inspected and is intended for use during the facility site walk. For each inspection area/item listed under "Areas/Items To Be Inspected" a notation is made as to whether the areas was inspected (YES), not inspected (NO), or is not applicable to the facility (NA). If an area/item is not inspected during the facility site walk a note is also made in the "Comments" section to explain why the area/item was not inspected and what action, if any, needs to be taken to inspect this area in the future. Additional areas that are inspected may be written in at the bottom of the Model Checklist.

6.2 ANNUAL INSPECTION REPORTING

An annual inspection report is also completed for each facility during the annual inspection to provide documentation that a comprehensive inspection has been performed. The annual inspection report is primarily used to document whether a facility

is implementing BMPs which are appropriate for its activities, identify any potential stormwater pollution problems, and record recommendations for improvements. A Model Annual Inspection Report (Model Report) is included in Appendix D.

For each facility that is inspected, the following information is recorded on the Model Report:

- facility name (i.e., Corporation Yard No. 1);
- facility address;
- name of staff conducting the inspection;
- title of staff conducting the inspection; and
- date of inspection.

During the facility site walk, for each BMP listed in the Model Report under "Facility Activities" an indication is made as to whether the BMP is being implemented (YES), is not being implemented (NO), or is not appropriate for the facility (NA). If a selected candidate BMP is not being adequately implemented a note is also made in the "Comments" column to indicate what action needs to be taken to implement the BMP or that the BMP is no longer appropriate. Notes may also be made to characterize non-stormwater discharges or identify whether additional BMPs need to be implemented.

Facilities where deficiencies are noted during the annual inspection will be re-inspected within 90 days. Deficiencies may include poor housekeeping practices, failure to implement appropriate BMPs, or the existence of non-stormwater discharges.

6.3 RECORDKEEPING AND REPORTING

Upon completion of the annual inspections, copies of the reporting forms will be forwarded to the Permittee's stormwater compliance coordinator for review and recordkeeping. Copies of the annual inspection reports will be kept for five years.